

Annual Drinking Water Quality Report

City of Quincy

For the period of January 1 to December 31, 2003

This report is intended to provide you with important information about your drinking water and the efforts made by the City of Quincy to provide safe drinking water. The source of drinking used by Quincy is surface, supplied by the Mississippi River. For more information regarding this report, contact the City of Quincy Department of Utilities at 217-228-4580.

Source of Drinking Water

The sources of drinking water (both tap water and bottles water) include rivers, lakes, streams, ponds, reservoirs, springs, and groundwater wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Drinking water, including bottles water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminant does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (800) 426-4791.

Contaminants that may be present in source water included:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife;
- Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial, or domestic wastewater discharges, oil and gas production, mining, or farming;
- Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses;
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems;
- Radioactive contaminants, which can be naturally occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulation, which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, and some elderly and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

Source Water Assessment

Illinois EPA considers all surface water sources of community water supply to be susceptible to potential pollution problems, hence, the reason for mandatory treatment for all surface water supplies in Illinois. Mandatory treatment includes coagulation, sedimentation, filtration, and disinfection. Within the Illinois portion of the Mississippi River Watershed, many commodities, including manufactured goods, petrochemicals, and pesticides are transported along the river system. The production, storage, and transportation of these commodities are a major concern, especially when occurring near surface water intakes. In addition, agricultural runoff within the Illinois portion of the Mississippi River Basin contributes to the susceptibility of the Quincy intakes. With high flow rates and long distances of travel on the Mississippi River, critical areas can be extensive. The critical area for the Quincy intake was determined using data from a joint U.S. Environmental Protection Agency/U.S. Geological Survey post. This project used a computer-modeling program (SPARROW) to determine travel times on major rivers in the United States.

Accidental spills of hazardous materials into navigable waterways are a major concern because of their frequency in the United States in recent years. Illinois has access to 1,116 miles of inland waterway that can handle commercial barge traffic. These include the Upper Mississippi River, Illinois River Waterway, and the Ohio River. Along these waterways are numerous facilities that load and unload hazardous materials. Analysis of reported spills indicate that between 1974 and 1989, 794 accidental spills of hazardous materials occurred along Illinois waterways. Approximately 92% of these spills occurred along the Mississippi and/or the Illinois River. Spills occurring in this critical area will travel to the intake in five hours or less, making contingency planning and spill reporting a major concern in this watershed. Further information concerning spill response planning on the Mississippi River may be found in U.S. EPA's website at www.epa.gov/region5/oil and at U.S. Geological Survey's website at [ftp://ftp.umesc.er.usgs.gov/gis_data/oil_spill](http://ftp.umesc.er.usgs.gov/gis_data/oil_spill). Under Section 319 of the Federal Clean Water Act, U.S. EPA provides grants for the Illinois EPA to finance projects that demonstrate cost-effective solutions to NPS pollution problems and promote public knowledge and awareness of NPS pollution. Projects in the Illinois portion of the Mississippi Water have included:

- Ongoing programs in North Mississippi, Des Plaines, Illinois, Sangamon, and Fox River Watersheds to reduce siltation and improve water quality.

Within the Illinois portion of the Mississippi River Watershed, the Illinois River Watershed has been identified as one of the most significant natural resources in the state. Protection and enhancement of this natural resource is a priority concern of the State of Illinois. In order to focus public attention and identify resource needs, several initiatives are underway including:

- Integrated Management Plan for the Illinois River Watershed – Under the Chairmanship of Lieutenant Governor Corrine Wood, and Illinois River Strategy Team has been formed. This group of public and private sector representatives forms the Illinois River Planning Commission and develops recommendations regarding environmental and economic issues on the Illinois River. These recommendations are the heart of an Integrated Management Plan, which in turn became the foundation for the Illinois River Restoration and Conservation Grant Act.
- Illinois River Restoration and Conservation Grant Act – This Act establishes an interagency body to develop and administer a grant program to fund local watershed management projects. The Act also established the Illinois River Coordinating Council to advise on grant awards and make recommendations towards the betterment of the Illinois River.
- Conservation Reserve Enhancement Program – The Conservation Reserve Enhancement Program (CREP) is a cooperative effort between the USDA and the State of Illinois to protect water quality in the Illinois River and some of its tributaries, USDA and the State of Illinois will work with other Federal, State, and local authorities to reduce sedimentation and runoff, and encourage the growth of local wildlife. The Illinois program will establish CRP contracts with owner and operators of farm properties to plant specific kinds of vegetation near streams and rivers in return for rental payments and other incentives. More information on CREP may be found on Illinois DNR's website at <http://dnr.state.il.us>.

In an effort to minimize the impact of livestock facilities on water resources on a statewide basis, livestock facilities are now regulated under the Livestock Management Facilities Act. This Legislation is designed to keep Illinois' livestock industry productive and environmentally responsibly by establishing requirements for design, construction, operation, and management of livestock facilities and waste-handling structures.

Detailed information on the Livestock Management Facilities Act may be found at the website <http://www.agr.state.il.us>. In addition, the watershed protection efforts and priorities of the Illinois EPA, Illinois Department of Agriculture, Illinois Department of Natural Resources, U.S. Department of Agriculture's Natural Resources Conservation Service, U.S. Army Corps of Engineers, and the Nature Conservancy are described and illustrated at the website: <http://www.epa.state.il.us/water/unified-watershed-assessment/index.html>.

In order to help farmers in adopting sound agricultural practices, the Illinois Council on Best Management Practices (C-BMP) was formed. The Council is a coalition of agribusiness and agricultural producer organizations with the support of the University of Illinois Extension and serves as a clearinghouse on current research to protect water quality in Illinois. The Council

also provides information and support to local watershed groups to help implement sound water quality initiatives and can offer educational assistance and help facilitate the technical and financial resources needed to carry out water quality objectives. For more information on C-BMP contact Dr. George Czapar, Springfield Extension Center, P.O. Box 8199, Springfield, IL 62791, email: g-czapar@uiuc.edu.

Regulated Contaminants Detected in 2003 (collected in 2003 unless noted)

Coliform Bacteria

Maximum Contaminant	Total Coliform Maximum	Highest No. of Positive Total	Fecal Coliform or E. Coli Maximum	Total No. of Positive E. Coli or Fecal Coliform Samples	Violation	Likely Source of Contamination
0	5% of monthly samples are positive	1	Fecal Coliform or E. Coli MCL: A routine sample is total coliform positive, and one is also fecal coliform or E. coli positive.	0	No	Naturally present in the environment

Water Quality Test Results

Definitions: The following tables contain scientific terms and measures, some of which may require explanation

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the Maximum Contaminant Level Goal as feasible using the best available treatment technology.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.

mg/l: milligrams per liter or parts per million (ppm) – or one ounce in 7,350 gallons of water

ug/l: milligrams per liter or parts per million (ppb) – or one ounce in 73,500 gallons of water

na: not applicable

Avg: Regulatory compliance with some MCL's are based on running annual average of monthly samples.

Maximum Residual Disinfectant Level (MRDL): The highest level of disinfectant allowed in drinking water.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of disinfectant in drinking water below which there is no known or expected risk to health. MRDLG's allow for a margin of safety.

Lead and Copper (sampled in 2002)

Definitions: Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow. Action Level Goal (ALG): The level of a contaminant in drinking water below which there is no known or expected risk to health. ALG's allow for a margin of safety.								
Lead MCLG	Lead Action Level	Lead 90 th Percentile	# Sites Over Lead AL	Copper MCGL	Copper Action Level	Copper 90 th Percentile	# Sites Over Copper AL	Likely Source of Contamination
0 ppb	15 ppb	2	0	1.3 ppm	1.3 ppm	0.041	0	Corrosion of household plumbing systems; Erosion of natural deposits

Disinfectants and Disinfectant By-Products

Contaminant	Highest Level	Unit of Measurement	Range of Levels	MCL	MCLG	Violation	Likely Source of Contamination
Chloramines	4	ppm	0.34-4.3	MRDL=4	MRDLG=4	No	Water additives used to control microbes
Total Haloacetic Acids (HAA5)	38	ppb	18.5-38	60*		No	By-product of drinking water chlorination
TTHM's (Total Trihalomethanes)	26	ppb	15-26	80*	n/a	No	By-product of drinking water chlorination

Inorganic Contaminants

Contaminant	Highest Level	Unit of Measurement	Range of Levels	MCL	MCLG	Violation	Likely Source of Contamination
Barium	0	ppm	0.008-0.008	2	2	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride	1	ppm	1.1-1.12	4	4	No	Erosion of natural deposits; Water additive which promotes strong teeth; Fertilizer discharge
Nitrate-Nitrite	1	ppm	0.76-0.76	10	10	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits

State Regulated Contaminants

Contaminant	Highest Level	Unit of Measurement	Range of Levels	MCL	MCLG	Violation	Likely Source of Contamination
Sodium	14	ppm	14-14	n/a	n/a	No	Erosion of naturally occurring deposits; used in water softening regeneration

Note: There is not a state or federal MCL for sodium. Monitoring is required to provide information to consumers and health officials that are concerned about sodium intake due to dietary precautions. If you are on a sodium-restricted diet, you should consult a physician about this level of sodium in the water.

***MCL Statement:** The Maximum Contaminant Level (MCL) for TTHM and HAA5 is 80 ppm and 60 ppm, respectively, and is currently only applicable to surface water supplies that serve 10,000 or more people. These MCL's will become effective 01/01/2004 for all groundwater supplies and surface supplies serving less than 10,000 people. Until 01/01/2004, surface water supplies serving less than 10,000 people, any size water supply that purchase from a surface water source, and groundwater supplies serving more than 10,000 people must meet a state-imposed TTHM MCL of 100 ppm. Some people who drink water containing trihalomethanes in excess of the MCL over a period of many years experience problems with their livers, kidneys, or central nervous systems, and may have increased risk of getting cancer.

Turbidity

Regulated at the Water Treatment Plant

Information Statement: Turbidity is a measurement of the cloudiness of the water caused by suspended particles. We monitor it because it is a good indicator of water quality and the effectiveness of our filtration system and disinfectants.

Limit (Treatment Technique)	Lowest Montly % Meeting Limit	Violation	Source
0.3 NTU (POP served > 9,999)	99	No	Soil Runoff

Limit (Treatment Technique)	Highest Single Measurement	Violation	Source
0.3 NTU (POP served > 9,999)	0.39	No	Soil Runoff

Our water system was required to monitor for the contaminants required under the Unregulated Contaminant Monitoring Rule (UCMR). Results may be obtained by calling the contact listed on the first page of this report.

Characteristics of Water Delivered to the Distribution System for 2003*

	Average	Minimum	Maximum
Odor Threshold No.	2.1	1.7	2.5
pH	9.04	8.73	9.37
Turbidity	0.16	0.09	0.25
Color	2.4	2.0	2.8
(the following determinations are expressed in mg/l)			
Total Alkalinity (as CaCO₃)	79	65	98
Phenolphthalein Alkalinity (as CaCO₃)	13	6	22
Non-carbonated Hardness	60	42	88
Total Hardness (as CaCO₃)	139	117	169
Residual Chlorine, Total	3.86	3.50	4.19
Calcium Hardness	92	67	115
Magnesium Hardness	47	25	70
Fluoride	1.03	0.95	1.13
Sulfate	31	24	37
Chloride	34	26	40

***Based on Daily Averages of Finished Water Parameters.**